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OUR NAVAL PROBLEM

BY LIEUTENANT COMMANDER LYMAN A. COTTEN, U. S. N.

THERE is probably no considerable faction among the various elements that go to make up the American public that does not now actively or passively favor an adequate navy for our Government. However, as to what constitutes an "adequate" navy there is the greatest divergence of opinion. The peace-at-any-price faction considers a few antiquated gun boats an "adequate" navy, since they can protect our citizens in revolution-ridden ports, or take them away to places of safety. At the other extreme, our militaristic faction can see adequacy for us only in a navy more powerful than the navy of any other nation or even any possible combination of nations. Between these two extremes, may be found what constitutes in reality a navy adequate to the needs of the United States, i. e., a navy capable of properly performing such duties as may logically fall to the lot of the navy of a rich, careless and ill-prepared country.

As to what constitutes an adequate navy in the above premise even expert opinions differ, and non-expert opinions run through the entire gamut from reason and moderation to impracticability and freakishness. One self-appointed authority demands a thousand submarines, and nothing else, to satisfy his idea of adequacy; another a fleet of battle cruisers, or a myriad air craft.

That our navy is our first line of defense has been long recognized. Let us see then what we have to expect of our navy; how important to the country is the duty that may fall to its lot, and what would be the probable result of a failure on the part of the navy to measure up to expectations. In general terms, "What is our naval problem?" We are not so much concerned now with the functions of navies in general, but we are very vitally interested in the

practical question as to the function of our own navy, and, so far as can be deduced from this, its necessary size and its desirable composition.

It is frequently stated, as a broad proposition, that in case of war, our navy must keep our enemy from landing on our shores, at least until we have had time to organize and train an adequate army to meet him when he does land. This statement is frequently followed by another citing the miles of coastline of our country, and comparing it with the coast-lines of other countries. This is all very interesting, perhaps, but unfortunately the difficulties of defense can not be measured in miles of coast-line, nor does the necessary size or composition of a nation's fleet vary with any known property of its coast-line. It is the task of our navy to keep our shores free of invaders, and more than that, for we can hardly abandon to our enemies, from the beginning of the war, our outlying dependencies—Porto Rico, the Philippines and the Hawaiian Islands, not to mention the Panama Canal. The problem that will tax the energies of our navy in war is to keep our normal naval frontier inviolate, at least in its vital parts.

The naval frontier of a nation may be defined as the geographical sea limit of its military power. It *includes*, but is not necessarily coterminous with, the coast-line of all territory facing the sea that is under the political control of a nation; it matters not whether this territory is contiguous or remote; and it incloses such parts of the sea as are occupied or controlled by its naval forces or are necessary to the military security of its territory.

Under this definition our naval frontier on the Atlantic, beginning near the easternmost point of Maine, sweeps down outside our eastern coast to the Straits of Florida, juts out to the eastward around Porto Rico, then back by Jamaica and south to the Panama Canal. Continuing on the Pacific, it stretches out, southward and westward, to the Samoan Islands, on around the Philippines by way of Guam, back to the Midway Islands, up around the Aleutian Islands and north to Behring Strait. Of course, this frontier includes certain territory not under the political control of the United States, but its relations to the United States are such as to place it, navally, in a special category. Without in any way anticipating or desiring political control of any territory between the Rio Grande and the Panama

Canal, all of this territory falls within our naval frontier for defensive purposes and as herein defined. In other words, it is as vital in a naval sense to keep an enemy out of Mexico as out of Texas.

It may interest those fond of comparing miles of coast-line, and other purely physical properties, to point out that our naval frontier extends from longitude 65 degrees west to 120 degrees east, approximately half way around the world, and in latitude it extends from 18 degrees south to 70 degrees north. The length of this naval frontier of ours is approximately 21,000 miles, a distance that makes our extensive coast-line seem scarcely more than a Sabbath day's journey.

A nation's naval frontier is exposed to the military force of all other nations touching the sea, for only the high seas intervene and these are free to all those that can maintain their rights thereto. At one time distance was reckoned on as a considerable factor in defense, but today the sea is a convenience rather than a barrier, *unless the way be barred by naval power*. Extreme distance, it is true, introduces difficulties, but so long as these may be overcome it is extremely unwise to count upon mere distance from possible enemies as an element of actual strength. When the difficulties of distance *have been overcome*, force is applied as though these difficulties had never existed.

We see that for an enemy to reach us he must penetrate our naval frontier (the danger to our two land frontiers may for the moment be disregarded), and so long as we can keep it intact we not only prevent invasion of our home shores but also keep our possessions from falling into the hands of an enemy. Thus the maximum that we can demand of our navy, whatever its size or composition, is the preservation of our naval frontier inviolate. Let us see how much of a problem this involves, and from this deduce the size and composition of the navy needed to handle adequately this problem.

Before considering our naval frontier, as it is today, let us for a moment look at it as it was in 1898, before the "hand of destiny," imperialism, or common sense, as you choose, stepped in and stretched it to the east around Porto Rico, to the west around the Philippines and other Pacific islands, and to the south around Panama: Then it merely skirted our coast-line in a modest and unassuming manner, and only struck into remote waters as it rounded Alaska. This may,

be termed our coast-line naval frontier, and its problems were simple compared with the problems of our present far-flung naval frontier, joining the new West with the old East, the tropics with the frigid zone. This may be termed our naval frontier of destiny, or simply our naval frontier, for this is the one with which we are now concerned, the one the defense of which constitutes our problem.

It will be apparent to the most untrained military eye that our present naval frontier is far more difficult to defend than our former one. Destiny does not confer unmixed blessings, and one cannot enjoy increased authority and opportunity without shouldering additional responsibility.

Other things being equal, an exposed or projecting portion of a military area is the more vulnerable part, and the same is true in naval warfare. This is because such a part is less easily supported or succored by other parts, is more detached physically, is more accessible to an enemy, and is farthest removed from the main sources of friendly supply, both of men and material. If the vulnerable part be also an area desired by an enemy, by virtue of location, trade possibilities or strategic reasons, the danger of its vulnerability being tested is, of course, vastly increased. Also if through such an area another and more important one may be reached more easily, the first becomes increasingly desirable for an enemy; the question of its defense involves both areas equally and the vulnerable one cannot be abandoned without involving the other.

With these few elementary principles, and without attempting to investigate extensively the offensive and defensive characteristics or the complications of naval strategy, let us look at our naval frontier. We find an exposed area in the Atlantic, another in the Pacific, and a third where the Atlantic and Pacific are joined by the Panama Canal. These three areas, Porto Rico, Panama, and the Philippines, are thrust forward, as it were, and are remote, as compared with adjacent areas, from the strengthening bases of our mainland; they are all most valuable commercially, as well as strategically, and they are in many ways most enticing to an enemy. Alaska is also exposed geographically, but climate and physical characteristics are a bulwark of defense, and this area is not in the same category as the other three we have mentioned.

In the Atlantic, the Porto Rico region and the adjoining

Panama region together form the Caribbean area, that frequent scene of maritime warfare and fruitful field for easy spoils since the days of Drake and Raleigh. This is an area of great interest to many nations, and one in which a number of European nations have territory. It may be noted how our naval frontier skirts the shores of Jamaica, so aptly termed by Admiral Mahan "The Key of the Caribbean," and how other European-owned islands extend to the southward and eastward from the very shores of Porto Rico. All of this tends to complicate matters from our point of view, and, together with our avowed purpose of maintaining the countries bordering on the Caribbean free from the political control of European nations, makes of the Caribbean an area of paramount importance to us from every point of view. The fate of the Monroe Doctrine and the control of the Panama Canal may be said to center in our ability to maintain inviolate our naval frontier in the Caribbean area. Incidentally it may be pointed out that the fate of the Monroe Doctrine will be determined by the nation that controls the Panama Canal, to stand if that nation so desires, to fall if it so wills. This and other more generally recognized functions makes of the Panama Canal itself a prize of the first magnitude, that would give the highest strategic value to the surrounding area.

The exposed area in the Pacific, the Philippine-Guam area, has not for us perhaps the vital interest that the Caribbean has, but it is not devoid of value for us and appeals with particular force to some other Powers. It occupies an important, if not a commanding, position in the Orient and its influence cannot safely be ignored by us. Still it is a long way from our home shores, and our Far Eastern interest is, after all, very largely one of sympathy. We speak of our trade with the Orient, but it is so small a fraction of our whole trade that its loss would scarcely be missed, and we do nothing year after year to increase it. These few passing thoughts are prompted by the inevitable query as to whether our interests really justify us in attempting to maintain our naval frontier almost to the shores of China. However, this is a question for the people of our democracy to settle.

We see from our cursory glance at our naval frontier that we have three areas of natural vulnerability, one in the east, one in the west and one in the south. In reality there are

but two separate areas, since the Panama Canal and the Porto Rico region merge into one, as they stand or fall together. These areas, for the reasons briefly stated above, may be considered as naturally the weakest part in our naval frontier. This *natural* weakness, of course, may be counteracted by artificial aids to defense; and these are what we are now seeking in general terms.

Do our people wish to abandon either or both of the naturally vulnerable areas in our naval frontier in case of war? If so, we need not take into consideration the defense of these areas in attempting to determine what constitutes an adequate navy for our country. The Caribbean area is so intimately connected with our country, is so close to our shores and is so rich in possibilities that it seems hardly necessary to consider the voluntary abandoning of it. It may be mentioned that this area in the possession of some other Power would constitute a menace to our actual coast-line that could be met only by greater defensive measures than are now needed to safeguard the area in question. From what we have said of naval frontiers it should be apparent to anyone that with our naval frontier contracted to our frontier of 1898, and the Caribbean in the control of possible enemies, Florida at once becomes our exposed area, with possible threatening positions in close proximity thereto. Also with our abandonment of the Caribbean area would go the loss of the Canal, unless we had power enough subsequently to retake a large portion. It is safe to say that our people wish the Caribbean area defended to the last resource.

As to the Philippine area, the wishes of our people are not so easily deduced from reason. Of that portion of our people that is not absolutely indifferent, it is probable that the majority would see us abandon the area in question with absolute equanimity. Certainly we have known now for seventeen years that this region would be a source of weakness to us in war, and it is no violation of confidence to say that we have done but little to correct that condition. To save a possibly long and profitless inquiry that at the end would probably lead to nothing definite, let us assume that we are willing to fall back in the Pacific to the Aleutian Island-Hawaii-Panama line. This shortens up our naval frontier immensely and brings it in nearer to our coast-line, yet does not omit anything of vital importance to our country.

What constitutes a navy "adequate" for the defense of the retracted frontier that we have here sketched? This, in a democracy, each man may decide for himself and may back his decision with all the force that is his, but it would seem the part of wisdom for each citizen to demand that the trained experts of the Government work out the details of such a decision for him and that the proper branch of the Government be forced by popular will to see these details authorized and executed.

The following may be taken as the outline of an adequate navy, based upon the defensive demands of our naval frontier. It makes no claims to being authoritative, and reasons can necessarily be given but briefly. At any rate it is founded upon certain military principles that are thought to be correct, and it does not claim to be the only possible answer that will meet the conditions of adequacy.

First we will have to indicate what we conceive to be the constituent parts of a navy, since these are not generally recognized in our country. In America, prospective naval effectiveness is measured in dreadnaughts, or great guns, or total tonnage, but all of these are utterly false standards of measurement. War efficiency is primarily a question of men, not of material. What men are to business and success ashore, so are the officers and men of the navy to the business of the navy, which ultimately means victory. In discussions of our navy in print, on the platform and in Congress itself the question of personnel is rarely mentioned, and personnel is always the last element provided in "increase of the navy." Yet since man first went to sea in rough "dug-outs," sea-battles have been decided by personnel and not by material.

Besides personnel, a navy consists of many classes of ships, with their various weapons, and of bases from which they can operate and to which they can return for repairs and replenishment. Each class of ship has its own function to perform in the complicated business of war on the sea, and in many cases the function of one is as different from that of the other as are the functions of the five human senses. As a dumb man may converse on his fingers, so in some cases may one class of ships take the place of another, but a make-shift is never so effective as the real thing. The advocates of submarines only, or air craft alone, must realize that they are viewing but one pattern in the rug

of naval warfare, and the whole is made up of many complicated patterns.

The most pressing need of our navy is increased personnel, both commissioned and enlisted, and this is regardless of whether there is any further increase of ships. The ratio of personnel to ship displacement is dangerously small even now, and it is more important to keep this ratio sufficient than it is to add new guns or new submarines. With the personnel-displacement ratio too small, the work of preparation for war piles up ahead, instead of being completed in the present, until those responsible (every person in the navy in his own sphere) are borne down physically and in spirit.

Let us see what our navy needs particularly to protect its Atlantic naval frontier. If we wish to hold our position in the Porto Rico-Panama region we need, and need badly, a first-class naval base in that area. We have an excellent location for such a base at Guantanamo and have had it since 1898, but the naval base is not there. Nature has done its part, but the size and location of appropriations would seem to be determined by other than strategic reasons. We knowingly accept a big handicap in the defense of this region so long as we have there no first-class naval base.

In the Pacific we will consider as abandoned from the outbreak of war all regions between our present naval frontier and the Aleutian-Hawaiian-Panama line. It is better to be prepared to do this than to attempt to hold the more extended line with insufficient power. On our modified frontier, we have been more provident than in the West Indies, for here we have the beginnings of a first-class base.

Now to defend our frontier we need three fleets: an Atlantic fleet, a Caribbean fleet, and a Pacific fleet, and the three should be approximately of the same composition. In case of war in the Atlantic, the Atlantic and Caribbean fleets would work together and the Pacific fleet would be drawn upon and handled as the Pacific problem permitted. In case of war in the Pacific, the Caribbean fleet would pass through the Canal to the Pacific, and the Atlantic fleet would be drawn upon and handled as the Atlantic problem permitted.

The composition of each of these three fleets should be such that by a junction of two of them we could hope to meet, with fair prospect of victory, any force that could, in reason, be brought to bear against our naval frontier. This condition would seem to be met by a main fighting strength, for

each fleet, of two squadrons of dreadnaughts and one of battle-cruisers, each squadron composed of nine ships; one fast scout for each dreadnaught, to locate the enemy and work with destroyers, and two destroyers for each capital ship. When this ideal is attained (if ever) we could bring to bear in either ocean a minimum effective fleet of 36 dreadnaughts, 18 cruiser-battleships, 36 scouts and 108 destroyers. Of course, in addition to these there should be a more or less extensive fleet of auxiliaries, fuel ships, ammunition ships, food ships, repair ships, hospital ships, mine layers, transports, tugs and tenders.

There remains to be determined the number of submarines and air craft needed to complete our defense. The scope of activity of *naval* air craft is still largely problematical, but we are safe in assuming that we need at least two effective machines for each scout and that probably three machines are necessary to insure that one may always be effective. This would give us in all a very modest air fleet of 324 machines, or an effective fleet at all times of 108 machines.

When we come to discuss submarines we take up a vast subject. Much that has to do with submarines is confidential, much is guesswork and much is faith. Yet no one denies that they are a powerful and increasingly influential weapon of warfare, but chiefly in defense. Submarines should not be required or expected to work continuously, and probably one day in three on duty is sufficiently taxing.

If one will glance at our naval frontier he will see behind it at various places points of manifest strategic value, as New York Harbor, Delaware Bay, etc. Each of these points should at *all* times be covered by not less than three submarines, which will make nine, based on each of these strategic points, that could come out when summoned to actual attack. Of these strategic points that really go to make up our naval frontier (leaving out Guam and the Philippines) there are twenty, which gives us for our required number of submarines, 180.

The outline here given of what constitutes for us an adequate navy may seem to many Americans extreme, but there is only one standard of comparison for navies, and that is other navies.

LYMAN A. COTTEN.